

From a study of Friend's patent, it is clear that the inversion frequency of his inverter is equal to the natural resonance frequency of his L-C circuit -- otherwise, he would not have reason to refer to his invention as "a resonant circuit power supply" (lines 61-62, column 1), or "a resonant circuit sine wave power supply" (lines 61-62, column 3), or as he similarly indicates in several other places in his specification.

Could his circuit reasonably be referred to as a "resonant circuit power supply" if it did not indeed operate substantially in a resonant mode?

Applicant contends that it would be highly unreasonable to interpret Friend's invention as having "means for providing drive current to the transistors to control the inversion frequency thereof to be higher than the natural resonant frequency of the inductor and capacitor combination".

b) Applicant's Claim 1 refers to "an inductor and a capacitor connected in series with each other between said pair of outputs".

Yet, in his invention, Friend employs an "LC parallel resonant circuit" (line 4, column 4), and he also refers to "an inductor 16 of a parallel resonant circuit that also includes capacitor 18" (lines 40-42, column 2).

In his comments related to his rejection of Claim 1 (lines 4-5, fourth paragraph on page 5 of his response), Examiner states that Friend discloses an arrangement wherein "A series resonant circuit 16, 18 is connected across the output terminals of the inverter". Yet, according to Friend, he employs a parallel resonant circuit -- not a series resonant circuit.

In fact, upon analysis of Friend's inverter circuit, it is clear that -- due to the action of the "emitter followers 24 and 52" (line 58, column 3) -- his LC circuit (16 and 18 of Fig. 1) does indeed operate predominantly as an "LC parallel resonant circuit".

In other words, Friend does not show an inverter circuit loaded at its output with a simple series-combination of an inductor and a capacitor -- and especially does not indicate the inversion frequency to be higher than the natural resonance frequency of this series-combination. Rather, he shows a much more complex loading circuit -- one that operates predominantly as a parallel resonant circuit.

If someone simply were to connect a series resonant circuit across an inverter's output -- without providing for an appropriate voltage-limiting load -- the inverter would most likely self-destroy due to the inordinately large amount of current that would then result.

However, instead of providing for a series resonant circuit with voltage-limiting, Friend chose to use an arrangement that might be considered the operational equivalent of a parallel resonant circuit.

In re Claim 14

Examiner rejects Claim 14 under "102(e)" as being anticipated by Friend. Applicant does not accept this rejection for the same reasons that he did not accept Examiner's rejection of Claim 1.

In re Claim 32

Examiner rejects Claim 32 under "102(e)" as being anticipated by Gurwicz. Applicant does not accept this rejection for the following reasons.

In the last paragraph on page 10 in Amendment B, Applicant presented arguments as to why Claim 32 clearly distinguishes over Gurwicz.

In response to those arguments, Examiner contends that the claimed "direct electrical connection" is provided (by Gurwicz) "through either diode of the right side of the bridge rectifier, and through either C1 or C2".

Applicant can not understand what Examiner has in mind. How can an electrical connection be "direct" if it is accomplished through a combination of four other components? (i.e., "through either diode of the right side of the bridge rectifier, and through either C1 or C2")

For an electrical connection to be direct, there must be no intervening components. That is, there must be no impedance elements between the two points which are supposed to be directly connected.

Moreover, due to the very nature of a bridge rectifier operating from a source of sinewave voltage and feeding its output into a set of energy-storing capacitors, most of the time all the diodes in the bridge rectifier are reversely biased; which means that most of the time there exists no electrical connection at all -- much less a "direct electrical connection".

*Also J. S. 4, 55*

In re Claim 86

Examiner rejects Claim 86 under "103(e)" as being anticipated by Friend. Applicant does not accept this rejection for the following reasons.

a) Applicant refers to the arguments provided in connection with Claim 1. These arguments also pertain to Claim 86.

b) Claim 86 specifies "an inverter adapted to ---- provide a squarewave voltage across a pair of output terminals". The output of Friend's inverter is definitely not a squarewave voltage. In fact, for Friend's very circuit to operate, it is definitely necessary that the inverter's output not be a squarewave voltage. Instead, the inverter's output must be a pulsed voltage -- with significant and distinct periods of no output voltage at all.

Moreover, the very principle of Friend's circuit requires that the repetition rate of the pulses provided at the inverter's output be substantially equal to the resonant frequency of his LC resonant circuit. That is, the number of pulses per second provided by the inverter must be substantially equal to the number of cycles per second associated with the natural resonance of his LC circuit.

In re Claim 90

Examiner rejects Claim 90 under "102(e)" as being anticipated by Rhoads. Applicant accepts this rejection and herewith cancels Claim 90.

In re Claim 93

Examiner rejects Claim 93 under "103" as being unpatentable over Pintell in view of Stevens. Applicant accepts this rejection and herewith cancels Claim 93.

In re Claim 106

Examiner rejects Claim 106 under "102(e)" as being anticipated by Friend. Applicant does not accept this rejection for substantially the same reasons that he did not accept Examiner's rejection of Claim 1.

In re Claim 112

Examiner rejects Claim 112 under "102(e)" as being anticipated by Stevens. Applicant accepts this rejection and herewith cancels Claim 112.

In re Remaining Claims at Issue

Please cancel dependent claims 94-96. However, the remaining dependent claims should be allowable based on the arguments provided in connection with the independent claims on which they are based.